

JSS 8135 - 05 : 2013

(Revision No. 4)

Supersedes JSS 8135 - 05 : 2006

(Revision No. 3)



**रक्षा मंत्रालय
MINISTRY OF DEFENCE**

**संयुक्त सेवा स्पेसिफिकेशन
JOINT SERVICES SPECIFICATION**

ON

PAPER, WRAPPING, WAXED KRAFT AMMUNITION

(DS Cat. no. 8135 - 000 149)

**मानकीकरण निदेशालय
रक्षा उत्पादन विभाग
रक्षा मंत्रालय
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LIST OF MEMBERS ASSOCIATED WITH FORMULATION OF THIS STANDARD

1. This Joint Services Specification has been approved by Dr. DK Kharat, Sc 'G' Director, Directorate of Armaments (R&D), and Chairman, Armament Standardisation Sub - Committee.
2. The following members have been present / consulted in approving the document :-

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JSS 8135 - 05 : 2013
(Revision No. 4)
Supersedes JSS 8135 - 05 : 2006
(Revision No. 3)

RECORD OF AMENDMENTS

Amendment		Amendment pertains to : Sl. No. / Para No. / Column No.	Authority	Amended by	Signature & Date
No.	Date			Name & Appointment (IN BLOCK LETTERS)	

JSS 8135 - 05 : 2013
(Revision No. 4)
Supersedes JSS 8135 - 05 : 2006
(Revision No. 3)

Sl. No.	CONTENTS	PAGE No.
0.	FOREWORD	1
1.	SCOPE	3
2.	RELATED SPECIFICATIONS / DOCUMENTS	3
3.	MATERIAL	3
4.	MANUFACTURE	4
5.	TENDER SAMPLE	4
6.	PRE - INSPECTION OF STORES / CONSIGNMENT	4
7.	QUALITY ASSURANCE	4
8.	WARRANTY	6
9.	PACKAGING	6
10.	MARKING	7
11.	SAFETY OF OPERATIONS	7
12.	DEFENCE STORES CATALOGUE NUMBER	7
13.	SUGGESTIONS FOR IMPROVEMENT	7
	APPENDIX 'A'	8

0. FOREWORD

0.1 This Joint Services Specification has been prepared by Armament Standardisation Sub - Committee on the authority of the Standardisation Committee, Ministry of Defence.

0.2 This specification has been approved by the Ministry of Defence and is mandatory for use by the Defence Services.

0.3 This document is a revision of JSS 8135 - 05 : 2006 (Revision No. 3) and supersedes the same.

0.4 This specification would be used for Manufacture, Supply and Quality Assurance of Paper, Wrapping, Waxed Kraft, Ammunition.

0.5 Quality Assurance Authority for the item covered in this specification is The Controller, Controllerate of Quality Assurance (Military Explosives), Aundh Road, Kirkee, Pune - 411 020. Enquiries regarding technical parameters shall be addressed to the Quality Assurance Authority, while other enquiries shall be referred to :-

The Director,
Directorate of Standardisation,
Ministry of Defence,
'H' Block, Nirman Bhawan PO,
New Delhi - 110 011.

0.6 Non registered users can obtain the following on payment :-

(a) **Copies of IS from :-**

Bureau of Indian standards,
Manak Bhawan,
9, Bahadur Shah Zafar Marg,
New Delhi - 110 002.

or

Their regional / Branch offices.

(b) **Copies of JSS / JSG from :-**

The Director,
Directorate of Standardisation
Standardisation Documents Centre,
Ministry of Defence
Room No. 05, 'J' Block,
Nirman Bhawan PO,
New Delhi - 110 011.

JSS 8135 - 05 : 2013

(Revision No. 4)

Supersedes JSS 8135 - 05 : 2006

(Revision No. 3)

0.7 Indian Standard (IS) specifications are available free of cost for registered users on :-

Directorate of Standardisation Website

www.defstand.gov.in

For registration visit our website.

0.8 This specification holds good only for the supply order for which it is issued.

0.9 **Directorate of Standardisation Website.** All the approved JSS / JSJs are available on the Directorate of Standardisation Website **www.defstand.gov.in** Defence Organisations desirous of accessing a copy of this document are requested to approach the Directorate of Standardisation for obtaining user id / password to access the website.

1. SCOPE

1.1 This specification is meant to govern Manufacture, Supply and Quality Assurance of Paper, Wrapping, Waxed Kraft, Ammunition suitable for wrapping cordite and Ammunition components.

2. RELATED SPECIFICATIONS / DOCUMENTS

2.1 Reference is made in this specification to :-

Sl. No.	Specification No. & Year	Nomenclature
(a)	IS 1060 : Part 1 : 1966 Reaffirmed 2004 Amds 5	Methods of sampling and test for paper and allied products : Part 1 (Revised).
(b)	IS 1060 : Part 2 : 1960 Reaffirmed 2009	Methods of sampling and test for paper and allied products : Part 2 (Tenth Reprint).
(c)	JSS 9160 - 09 : 2010 (Revision No. 1)	Paraffin Wax, Ammunition.
(d)	JSS 8135 - 17 : 2002 Reaffirmed 2010	Paper Kraft, Ammunition.
(e)	JSG 0114 : 1994	Methods of test for Textiles used in Ammunition.
(f)	CIME Drawing CI / M / 153	Water Penetration Apparatus.

2.2 Copies of CQA (ME) Drawing CI / M / 153 are obtainable on payment from :-

The Controller
Controllerate of Quality Assurance (Military Explosives)
Aundh Road,
Pune - 411 020

3. MATERIAL

3.1 Paper, Wrapping, Waxed Kraft, Ammunition shall be of uniform width and thickness and shall be free from foreign matter and visible impurities.

JSS 8135 - 05 : 2013

(Revision No. 4)

Supersedes JSS 8135 - 05 : 2006

(Revision No. 3)

4. MANUFACTURE

4.1 The body paper shall be made from pure unbleached Sulphate wood pulp (Kraft). The material shall be hot rolled so that there is no surface layer of wax. The substance of the body paper and waxed paper shall be in accordance with the terms of contract.

4.2 Ingredients.

4.2.1 Paper, Wrapping Waxed, Kraft, Ammunition shall contain the following ingredients to the respective specifications as given below :-

Sl. No.	Ingredients	Specification
(a)	Paper Kraft grade 1(substance $75 \pm 4 \text{ g / m}^2$)	JSS 8135 - 17
(b)	Paraffin Wax	JSS 9160 - 09

5. TENDER SAMPLE

5.1 The contractor / manufacturer / supplier shall submit a tender sample of 250 g along with 250 g of basic kraft paper used in sheet or roll form, free of charge, conforming to this specification to the Quality Assurance Authority as stated in the contract. Unless other wise specified the sample shall consist of sheets of at least 50 x 50 cm. The sample sheets shall be kept flat, free from wrinkles and folds and protected from exposure.

6. PRE - INSPECTION OF STORES / CONSIGNMENT

6.1 Manufacturers / contractors must satisfy themselves that the stores are in accordance with the terms of the contract and fully conform to the required specification, by carrying out a thorough pre - inspection of each lot before actually tendering the same for inspection to the Quality Assurance Officer nominated under the terms of the contract. A declaration by the contractor that a necessary pre-inspection has been carried out on the stores tendered, will be submitted along with the challan. The declaration will also indicate the method followed in carrying out pre - inspection showing the features checked / tested and will have the test certificate attached to the challan / declaration.

6.2 If the Quality Assurance Officer finds that pre - inspection of the consignment as required above has not been carried out, the consignment is liable for rejection.

7. QUALITY ASSURANCE

7.1 Inspection.

7.1.1 The Paper, Wrapping, Waxed, Kraft, Ammunition and the packages in which it is packed shall be subject to inspection by and to the approval of the Quality Assurance Officer / Quality Assurance Authority.

7.2 Sampling.

7.2.1 At least 5 percent of the packages shall be sampled. When supplied in rolls, four continuous representative sheets (150 g) shall be taken from each sample package. The sample Sheets shall be cut with edges parallel to the machine and cross directions of the paper. Samples taken from rolls shall not include the end portions.

7.3 Criteria for Conformity.

7.3.1 If on examination, any sample is found not to conform to this specification, the whole batch / lot / consignment may be rejected.

7.4 Test Requirements.

7.4.1 Samples taken from any portion of the batch/lot/consignment of material shall conform to clause 4 and in addition shall conform to the test requirements shown in the following tables :-

7.4.2 Table 1: Chemical Requirements of Paper, Wrapping, Waxed, Kraft, Ammunition :-

Sl. No.	Characteristics	Requirements	Test Method Reference to IS 1060 (Part 1 & 2)
(a)	Moisture content, % by mass	Max. 7.0	JSG 0114 Method 4
(b)	pH of water extract	Min. 5.5 Max. 7.5	Part 1 - 10
(c)	Water soluble chlorides, calculated as Sodium chloride, % by mass	Max. 0.05	JSG 0114 Method 7 or By Chloride Titrate
(d)	Water Soluble Sulphates calculated as anhydrous Sodium Sulphate, % by mass	Max. 0.25	Part II -18
(e)	Matter soluble in Ether, % by mass	Min. 20 Max. 32	Part II - 20
(f)	Fatty acids, calculated as Oleic acid, % by mass	Max. 0.25	Part II - 19
(g)	Ash on incineration, % by mass	Max. 5.0	Part I - 11

Note. All percentages shall be calculated on the dry mass material after drying to constant mass.

JSS 8135 - 05 : 2013

(Revision No. 4)

Supersedes JSS 8135 - 05 : 2006

(Revision No. 3)

7.4.3 Physical Requirements.

7.4.3.1 The material shall be conditioned, prior to testing, in an atmosphere of 65 ± 2 % relative humidity at $27 \text{ }^\circ\text{C} \pm 2 \text{ }^\circ\text{C}$ for a period of not less than 24 hours.

Table 2 : Physical Requirements of Paper, Wrapping Waxed, Kraft, Ammunition

Sl. No.	Characteristics	Passing Standard	Reference to Test Method No. IS 1060 (Pt 1)
(a)	Water Proof ness	To pass the test	Appendix 'A'
(b)	Substance g / m ²	Min 85 Max 105	IS 1060 (Pt.1) Part I – 6
(c)	Bursting strength kPa	Min 206	Part 1, 12.5

8. WARRANTY

8.1 The stores supplied against the contract shall deem to have been warranted against defective material and performance by the contractor for a period of 12 months from the date of receipt of the store at the consignee's end and if during this period any of the stores supplied is found defective, the same shall be replaced by the supplier / manufacturer / contractor free of charge at the consignee's premises.

9. PACKAGING

9.1 The Paper shall be delivered flat and unfolded in reams of 500 sheets. Each ream shall be wrapped separately and 10 such reams are wrapped in hessian cloth to form a bale. The bale shall be placed between two suitable thick boards (wood or paper) and the assembly secured by hoop iron or polypropylene tape for safe rail transit.

9.2 When the supply is required in rolls, each roll is to be wrapped with packing paper followed by hessian cloth and hooped round along with 4 bamboo strips at corners. The quantity per roll shall not exceed 200 kg.

9.3 The inclusion of any foreign matter or impurities in any of the packages shall render the whole consignment / batch / lot liable to rejection.

9.4 Any other form of package shall have the prior approval

10. MARKING

10.1 All packages containing the material shall be indelibly and legibly marked with the following details (as applicable) :-

(a)	Nomenclature and Specification number of the material.
(b)	Name and address of the consignee.
(c)	A.T. or S.O. number and date.
(d)	Consignment Number.
(e)	Lot / batch number and date of manufacture.
(f)	Gross and net mass.
(g)	Consignment number of package and total number of packages in the consignment.
(h)	Date of Supply.
(j)	Contractors / Manufacturer's / Supplier's initial or recognized trademarks.

10.2 In addition to above the Quality Assurance Officer may suggest some more markings / identifications suitable at the time of inspection.

11. SAFETY OF OPERATIONS

11.1 Nothing in this specification shall relieve the contractor, supplier, manufacturer or user of his responsibility in the safety of his operations in handling, storage, transit or use of this store.

12. DEFENCE STORES CATALOGUE NUMBER

12.1 The Defence Stores Catalogue Number allotted to this store is 8135 - 000 149.

13. SUGGESTIONS FOR IMPROVEMENT

13.1 Any suggestion for improvement in this document may be forwarded to :-

The Director,
Directorate of Standardisation,
Ministry of Defence,
'H' Block, Nirman Bhawan PO,
New Delhi - 110 011.

JSS 8135 - 05 : 2013

(Revision No. 4)

Supersedes JSS 8135 - 05 : 2006

(Revision No. 3)

Appendix 'A'

DETERMINATION OF WATER PROOFNESS

1. The paper is subjected in a suitable apparatus (CQA (ME)) Aundh Road, Pune drawing No. CI / M / 153) of internal diameter 12.7 cm to a pressure of 10 cm height of water containing 1 percent eosin or any other suitable water soluble dye at a temperature of $27\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ for 24 hours with a filter paper in close contact with the underside of the test piece.

1.1 The filter paper should not be stained or wetted after the period.